Original Research Article

Prevalence of depression among elderly population in rural South India

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ABSTRACT

Background: Depression among elderly is the commonest psychiatric disorder however it is commonly misdiagnosed and under treated. Most of the time it is considered as part of aging process rather than a treatable condition. Diagnosing depression in the elderly is often difficult as a result of presence of cognitive impairment as well as reluctance and denial by the elderly and their family members. Objective of the study was to estimate the prevalence of depression among elderly rural population in South India.
Methods: A community based cross sectional study was conducted over a period of 2 months among 575 elderly people aged 60 years and above in the rural field practice area of a tertiary care hospital in south India using a pre validated Geriatric Depression Scale. Data entered and analysed using MS Excel.
Results: 77.56% of the study participants were found to be depressed. Among them 74.66% were mild depressive and 25.34% had severe depression. Depression was common in elderly males as compared to females. The prevalence of depression was higher in those who live single and those living with their children without their spouse and those with co morbidities.
Conclusions: Prevalence of depression among elderly is high in rural areas. It also increases as the age increases. Early identification and timely intervention would promote healthy old age.

Keywords: Depression, Elderly, Rural population

INTRODUCTION

India is the second most elderly populated country. Life expectancy in India has increased over last 70 years. By 2050, elderly population in India will be around 19% of total population. Aging has an important detrimental effect on mental health. This is the period of transition where one has to deal not only with the physical aging, but also with the challenges affecting the mental and social wellbeing of the individual. Disability arising due to various illnesses, loneliness, lack of family support, restricted personal autonomy, and financial dependency are other important determining factors for increasing prevalence of mental health problems. Among the various

mental health issues, depression posses the biggest risk for elderly population. Depression affects an individual's quality of life and increases dependence on others. If depression is left untreated, it can have considerable clinical and social implications in the lives of the elderly. Early recognition, diagnosis and early intervention like initiation of treatment and providing rehabilitation for depression will prevent suffering/ premature death and will also provide a productive life and autonomy. Early diagnosis and intervention will lead to significant reduction in mortality due to suicide and medical illnesses, and health care costs.[1] The prevalence rate of depression among elderly in Worldwide and India was found to be 10-20% and 13-25% respectively.[1-5] This

study has been planned to study the magnitude of depressive disorder among elderly population in rural south India. Objective was to estimate the prevalence of depression among elderly rural population in South India.

METHODS

This community based cross-sectional study was conducted in rural field practice area of a tertiary care hospital among 575 elderly people aged 60 years and above between December 2017 and February 2018 after obtaining permission from the Institutional Ethical committee. Training doctors posted in the Rural Health Training Centre were sensitized regarding the objectives of the study, confidentiality of information, participants rights, informed consent and were trained to administer the questionnaire.

A pre-validated questionnaire, Geriatric Depression Scale was used as the study proforma.[6] It was transformed into local vernacular language. After proper validation, the questionnaire was administered to the elderly people by an interview. A total of 750 elderly people were identified from family folders of rural area of Thekani, KFMSR. Among them, 430 were males and 320 were females. Out of this 575 people whose age was 60 years and above and consented to participate were included in the study. Those who did not give informed consent, those who were unable to contact even after three visits and those who were unable to comprehend our speech due to age related

problems dementia, alzheimers etc., were excluded from the study. Data entry and analysis were done in Microsoft Excel. Continuous variables such as age were summarized as mean and standard deviation (SD). Results of malnutrition status were summarized as proportion. Bivariate analysis (Chi-square test) was used to find the association between age and gender. P value less than 0.05 was considered statistically significant.

RESULTS

Out of 575 elderly people, 58.4% were males and 41.6% were females. Of the 575, 446 (77.56%) were suffering from depression. Among them 74.66% were mild depressive and 25.34% had severe depression. Among the mild depressive people, 60.1% were males and 39.9% were females. Among severe depressive people, 68.1% were males and 31.9% were females. The prevalence of depression was high in male compared to females and the differences were statistically significant (p<0.001) (Table 1). As the age increases, the prevalence and severity of depression increases significantly (Table 2). The prevalence of depression was higher in those who live single and those living with their children without their spouse and it was statistically significant (Table 3). The severity of depression increases significantly as the income level decreases (Table 4). As the educational level increases the severity of depression decreases (Table 5). The severity of depression was significantly lower in those without any comorbid conditions (Table 6).

Table 1: Association between depression and gender.

Sex	Score classification			Chi square	P value
	Normal (n=129)	Mild depression (n=333)	Severe depression (n=113)		
	N (%)	N (%)	N (%)		
Male (n=336)	59 (45.7)	200 (60.1)	77 (68.1)	13.31	0.001
Female (n=239)	70 (54.3)	133(39.9)	36 (31.9)		

Table 2: Association between age group and severity of depression.

Age group (in years)	Score classification			Chi Square	P value
	Normal (n=129)	Mild depression (n=333)	Severe depression (n=113)		
	N (%)	N (%)	N (%)		
60-70	73 (56.6)	89 (26.72)	11 (9.73)	122.8	0
71-80	36 (27.9)	149 (44.75)	32 (28.32)		
>80	20 (15.5)	95 (28.53)	70 (61.95)		

Table 3: Association between living condition and severity of depression.

Living condition	Score classification			Chi square	P value
	Normal (n=129)	Mild depression (n=333)	Severe depression (n=113)		
	N (%)	N (%)	N (%)		
Single	12 (9.30)	89(26.73)	71 (62.83)	223.83	0.001
With spouse alone	32 (24.81)	68 (20.42)	12 (10.62)		
With spouse and family	76 (58.91)	37 (11.11)	8 (7.08)		
Without spouse with family	9 (6.98)	139 (41.74)	22 (19.47)		

Table 4: Association between income and severity of depression.

Income (in Rs.)	Score classification			Chi square	P value
	Normal (n=129)	Mild depression (n=333)	Severe depression (n=113)		
	N (%)	N (%)	N (%)		
<5000	9 (6.97)	92 (27.63)	59 (52.21)	137.65	0
5000-10000	15 (11.63)	95 (28.53)	32 (28.32)		
10000-20000	32 (24.81)	89 (26.73)	9 (7.96)		
>20000	73 (56.59)	57 (17.11)	13 (11.51)		

Table 5: Association between education level and severity of depression.

Income (in Rs.)	Score classification			Chi square	P value
	Normal (n=129)	Mild depression (n=333)	Severe depression (n=113)		
	N (%)	N (%)	N (%)		
Illiterate	8 (6.20)	63 (18.91)	54 (47.79)	171.85	0
Primary	10 (7.75)	85 (25.55)	26 (23.01)		
Secondary	14 (10.85)	59 (17.72)	11 (9.73)		
Higher secondary	12 (9.30)	62 (18.61)	8 (7.08)		
UG degree	31 (24.03)	35 (10.51)	6 (5.31)		
PG degree	54 (41.87)	29 (8.70)	8 (7.08)		

Table 6: Association between disease status and severity of depression

Disease status	Score classification			Chi square	P value
	Normal (n=129)	Mild depression (n=333)	Severe depression (n=113)		
	N (%)	N (%)	N (%)		
No comorbidity	17 (13.18)	59 (17.72)	62 (54.86)	74.51	0
With comorbid conditions	112 (86.82)	274 (82.28)	51 (45.14)		

DISCUSSION

A community based cross sectional study was conducted on 575 elderly populations to assess the prevalence of depression among elderly population. The overall prevalence of geriatric depression was found to be 77.56%. The prevalence in males was 82.44 and females was 70.71%. In the present study, the prevalence rate of depression was more common among male population. Nautiyal et al stated that out of 53 depressive participants, 44 people were found to be males, reflecting depression conditions more in males.[4] Another study by Raoet et al also showed that geriatric depression was more common among males.[7] In contrast, Jain et al in their study reported that prevalence of depression was found to be more in females (57.8%) than in males (45.9%).[8] Jariwalavishal et al and Rajkumar et al also stated that geriatric depression is common in females.[9,10]

In our study, the prevalence of depression increased with increase in age. This was due to increased economical and physical dependency, loss of the spouse, negligence by the family members and loss of self esteem.[11] A study by Swarnalathaet et al states that there was a sudden increase in the prevalence after the age of 69 years.[11] Studies done by Jariwalavishal et al and Rajkumar et al also showed similar results.[9,10]

Elderly people living alone/living with their children without their spouse had increased rate of depression. These factors show that depression among geriatric people could be due to financial dependency on others/ loss of their partner.[4] Similar results were reported by Nautiyal et al, Jariwalavishal et al, Rajkumar et al and Jones et al.[4,9,10,12]

The prevalence rate has significant association with educational status. Swarnalatha et al, study states that the prevalence of depression was found to be inversely proportional to the literacy status.[11] Literacy reflects economic dependence.[1] Similar findings were observed by Rajkumar et al and Ramachandran et al in India.[9,13]

The prevalence of depression was more common in people who belong to low socio economic status. Lower socio economic status reflected the role of economic

dependency and thereby negligence by the family members. Swarnalatha et al states that the prevalence was significantly high among the subjects who were below the poverty line (86.1%), while it was 25.0% among the upper high socio-economic group.[11] Studies done by Ramachandran et al, Rajkumar et al and Jain et al also support this finding.[6,8]

The prevalence also increases in elderly people who were suffering from chronic illness. A study by Trief et al showed that diabetes had a significant association with depression among the geriatric population. Rajkumar et al stated that history of cardiac illness and diabetes showed a statistical significant association towards developing depression.[9,14] Studies done by Radhakrishnan et al and Sherinaet et al showed similar reports.[2,15]

CONCLUSION

The prevalence of elderly depression in rural areas is highly alarming. Most of the times, depressive disorders in elderly remains undiagnosed. This condition must be considered when any health care provider meets an elderly people. Proper implementation of geriatric mental health care programme for prevention and diagnosis of depression in elderly rural population, treatment and provision for rehabilitation centres for them is the need of the hour. Creating a hub for geriatric people in rural areas can provide thought sharing and stress free environment.

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